

10/518344

New U.S. Application
PRELIMINARY AMENDMENT

PATENT
DT01 Rec'd PCT/PCT 17 DEC 2004

IN THE CLAIMS:

Please amend claims 1-10 as shown below in the detailed listing of all claims which are, or were in this application:

1. (Currently amended) Process for the surface treatment of an article containing crosslinked silicone, preferably selected from polyorganosiloxanes (POS) crosslinked by the polyaddition of $\equiv\text{Si}-\text{H}$ units onto $\equiv\text{Si}-\text{alkenyl}$ (preferably $\equiv\text{Si}-\text{vinyl}$) units, in a silicone preparation comprising:

- at least one polyorganosiloxane (POS) A with $\equiv\text{Si}-\text{alkenyl}$ (preferably $\equiv\text{Si}-\text{vinyl}$) units,
- at least one polyorganosiloxane (POS) B with $\equiv\text{Si}-\text{H}$ units,
- at least one metal catalyst C, preferably based on platinum,
- optionally at least one POS resin D carrying $\equiv\text{Si}-\text{alkenyl}$ (preferably $\equiv\text{Si}-\text{vinyl}$) units,
- optionally at least one crosslinking inhibitor E,
- optionally at least one adhesion promoter F,
- optionally at least one mineral filler G,

• optionally at least one functional additive H for imparting specific properties,
~~characterized in that wherein:~~

- ~~it consists essentially in said process comprises~~
spraying at least one plasma jet onto at least part of the silicone surface of said article,
- the plasma used is a homogeneous atmospheric plasma,
- and it is produced continuously by means of a plasma spraying apparatus comprising a rotating head having one or more plasma nozzles that are offset relative to the axis of rotation, each one being capable of generating a plasma jet whose axis is parallel to said axis of rotation.

2. (Currently amended) Process for the production of a crosslinked silicone article which has been treated by the process according to claim 1, ~~characterized in that it comprises the following essential steps comprising:~~

- (I) forming a silicone element with a liquid silicone preparation as defined in claim 1;

- (II) crosslinking this liquid silicone preparation formed in step (I);
- (III) treating at least part of the crosslinked silicone surface with a plasma;
- (IV) repeating steps (I) and (II).

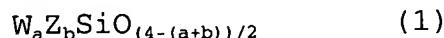
3. (Currently amended) Process according to claim 1 ~~or 2~~, characterized in that wherein the quantity of plasma received by the silicone surface is such that the energy of said surface is greater than 30 mN/m and preferably between 30 and more than 70 mN/m.

4. (Currently amended) Process according to ~~any one of claims 1 to 3~~, characterized in that claim 1, wherein the article containing silicone includes a preferably flexible substrate and one or more crosslinked silicone elements forming a monolayer or multilayer coating adhering to the substrate.

5. (Currently amended) Process according to ~~any one of claims 1 to 4~~, characterized in that claim 1, wherein the article containing silicone is a silicone mold or molded object.

6. (Currently amended) Process for the assembly of articles containing crosslinked silicone preferably selected from polyorganosiloxanes (POS) crosslinked by the polyaddition of $\equiv\text{Si}-\text{H}$ units onto $\equiv\text{Si}-\text{alkenyl}$ (preferably $\equiv\text{Si}-\text{vinyl}$) units, ~~characterized in that wherein~~ at least one of the articles to be assembled is derived from the process according to ~~any one of claims 1 to 4~~ claim 1, and ~~in that wherein~~ said articles are assembled using liquid adhesive which is applied to at least part of the treated silicone surfaces.

7. (Currently amended) Process according to ~~any one of claims 1 to 6~~ claim 1, wherein the chosen POS A have siloxy units of the formula:



in which:

- the symbols W, which are identical or different, are each an alkenyl group and preferably a C₂-C₆ alkenyl;
- the symbols Z, which are identical or different, are each a non-hydrolyzable monovalent hydrocarbon group that is devoid of an unfavorable action on the activity of the catalyst, is optionally halogenated and is preferably

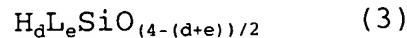
selected from alkyl groups having from 1 to 8 carbon atoms inclusive, and from aryl groups;

- a is 1 or 2, b is 0, 1 or 2 and a + b is between 1 and 3;
- optionally at least some of the other units are units of the empirical formula



in which Z is as defined above and c has a value of between 0 and 3.

8. (Currently amended) Process according to ~~any one of claims 1 to 7~~ claim 1, wherein the chosen POS B has siloxy units of the formula:



in which:

- the symbols L, which are identical or different, are each a non-hydrolyzable monovalent hydrocarbon group that is devoid of an unfavorable action on the activity of the catalyst, is optionally halogenated and is preferably selected from alkyl groups having from 1 to 8 carbon atoms inclusive, and from aryl groups;

- d is 1 or 2, e is 0, 1 or 2 and d + e has a value of between 1 and 3;
- optionally at least some of the other units being units of the empirical formula



in which L is as defined above and g has a value of between 0 and 3.

9. (Currently amended) Process according to ~~any one of claims 1 to 8, characterized in that claim 1, wherein~~ the alkenyl groups W of the POS A and/or of the POS resins D are vinyl groups Vi carried by siloxy units D and optionally M and/or T.

10. (Currently amended) Crosslinked silicone elastomer coating obtainable by the process according to ~~any one of claims 1 to 4 and 6 to 9, characterized in that it~~ claim 1, wherein said coating has an adhesive strength, measured by a peel test T, greater than 2.7 N/cm, preferably greater than or equal to 2.8 N/cm and particularly preferably of between 3 and 10 N/cm.